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AEGIS STATUS—DISPLAY FORMATS: TRADEOFF STUDIES

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**13 ABSTRACT** *(Maximum 200 words)*

An experiment was designed to collect human performance data on current and experimental status display formats for a Navy Workstation (i.e., Aegis Combat System). Current information display methods do not take advantage of human processing capabilities of using graphics (e.g., icons, bar-graphs, or color) and integrating the information on the display to fit the operator's task. The focus of the experiment was to provide human performance data to support the trade-off analyses of display formats and to investigate the feasibility of applying these techniques to future control/display upgrades. Eleven subjects (6 Navy personnel with Aegis combat system experience and 5 Navy researchers) viewed different display formats of the Guided Missile Launcher System Character Read-out (CRO). The subjects answered 16 questions about system status on each of the display layouts. The experiment compared operator accuracy and response times when reading information across the displays. We found that operator performance may differ as a function of layout of information on a CRO and the cognitive processes required to execute the task. Other design improvements for future studies will be discussed.

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# DRAFT

# DEPARTMENT OF DEFENSE HUMAN FACTORS ENGINEERING TECHNICAL GROUP

MINUTES OF THE TWENTY-FIFTH MEETING
12 - 15 NOVEMBER , 1990
SAN DIEGO, CALIFORNIA

HOST:

NAVAL HEALTH RESEARCH CENTER

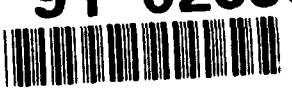
SAN DIEGO, CALIFORNIA

CHAIR:

CDR THOMAS M. MITCHELL
NAVAL POSTGRADUATE SCHOOL
MONTEREY, CALIFORNIA

DRAFT





# AEGIS Status-Display Formats: Tradeoff Studies

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## Abstract

An experiment was designed to collect human performance data on current and experimental status display formats for a Navy Workstation (i.e. Aegis Combat System). Current information display methods do not take advantage of human processing capabilities of using graphics (e.g., icons, bar-graphs, or color) and integrating the information on the display to fit the operator's task. The focus of the experiment was to provide human performance data to support the trade-off analyses of display formats and to investigate the feasibility of applying these techniques to future control/display upgrades. Eleven subjects (6 Navy personnel with Aegis combat system experience and 5 Navy researchers) viewed different display formats of the Guided Missile Launcher System Character Read-out (CRO). The subjects answered 16 questions about system status on each of the display layouts. The experiment compared operator accuracy and response times when reading information across the displays. We found that operator performance may differ as a function of layout of information on a CRO and the cognitive processes required to execute the task. Other design improvements for future studies will be discussed.

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# AGENDA

## Department of Defense
## Human Factors Engineering Technical Group
## User-Computer Interaction (UCI) Subgroup

## San Diego, California

## 13 NOVEMBER 1990

## "AEGIS Display Technologies"

| | | |
|---|---|---|
| 1330 - 1335 | Introduction by Chair, "AEGIS Display Technologies" | Mr. Paul S. Rau<br>Naval Surface Warfare Center, White Oak, Md. |
| 1335 - 1415 | "Improved Target Selection on Displays" | Dr. Glen Osga<br>Naval Ocean Systems Command<br>San Diego, CA. |
| 1415 - 1500 | "Status-Display Formats: Tradeoff Studies" | Dr. Jim Broyles<br>Naval Ocean Systems Command<br>San Diego, CA. |
| 1500 - 1515 | Coffee Break | |
| 1515 - 1600 | "AEGIS Tactical Displays: Use of Color" | Mr. Jennings Willy<br>Johns Hopkins, Applied Physics Laboratory<br>Laurel, MD. |
| 1600 - 1630 | "Scenario Based Methodology for Evaluating Natural Language Interfaces" | Dr. Kathleen Fernandes<br>Naval Ocean Systems Command<br>San Diego, CA. |
| 1630 | Adjournment | |